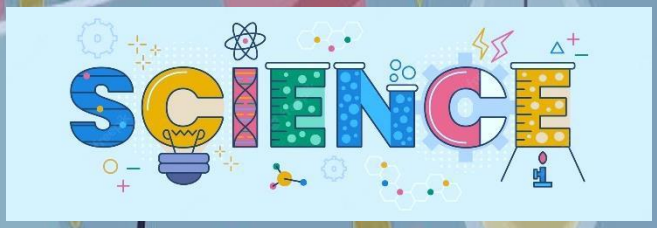



Year 1 Study Guide

## Unit 6 Forces

6.2 push and pull forces

6.3 Making things move

6.4 floating and sinking

6.5 Magnets can pull

## Unit 4 Earth

4.1 Planet Earth

4.2 Light and heat from the sun

4.3 Rocks

4.4 Soil

## Key Concepts of Hamilton

- Be able to identify and name different common animals including fish amphibians, reptiles, birds, and mammals

Know the basic needs of animals for survival.

# Forces

## Push

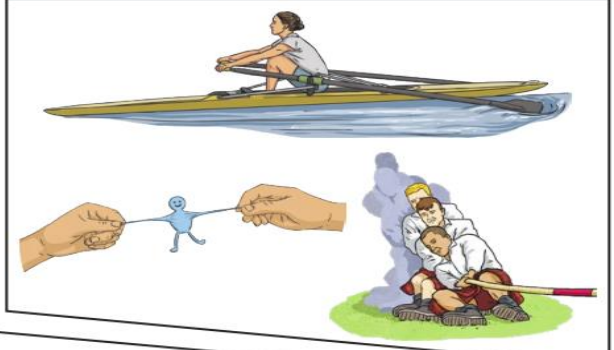
A force to move something away.

## Pull

A force to move something towards you.

### Pushes

### Pulls



**Forces** will change the motion of an object.
They will either make it start to move, speed up, slow it down or even make it stop.

### Magnetic ✓

These objects contain iron, nickel or cobalt. Not all metals are **magnetic**.

### Non-magnetic ✗

These objects do not contain iron, nickel or cobalt.

# Forces and Motion


up


down


spin


pull


push

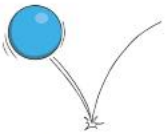

stretch


rub


slide


spring

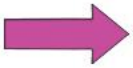

roll


bounce


gravity


magnetise


repel

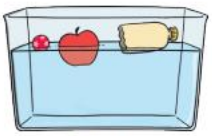

force

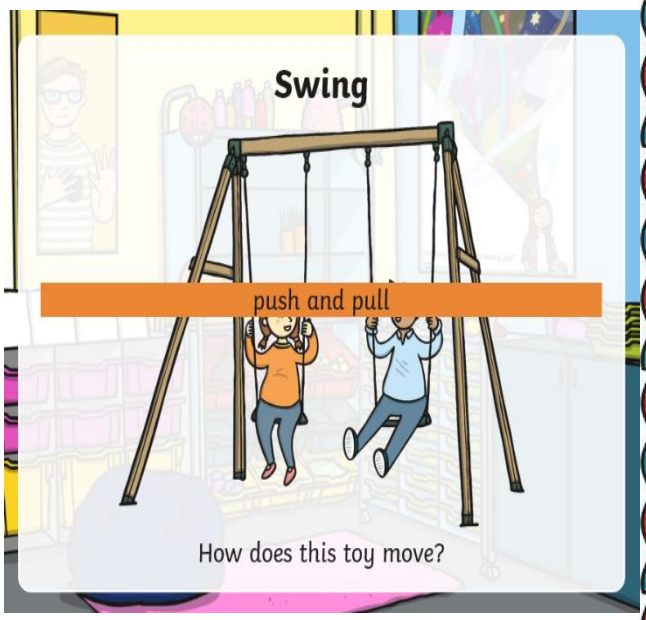

fast


slow

visit twinkl.com


sink


float

**Forces**

1. A force can be a push or a pull- **True**
2. You need a force to move a toy car- **True**
3. A push can stop an object from moving- **False** (A push generally starts or continues movement, though it can stop an object if pushing in the opposite direction of movement.)

**Magnetic and Non-Magnetic**

4. A magnet can pick up a plastic spoon- **False** (Magnets attract materials like iron, not plastic.)
5. Iron and steel are magnetic materials- **True**
6. Wood is a magnetic material- False (Wood is non-magnetic.)

**Sinking and Floating**

7. A stone will float on water- **False** (A stone will sink because it is heavier than water.)
8. A piece of wood will float on water- **True** (Wood generally floats because it is less dense than water.)
9. If you push a rubber duck under the water, it will sink and stay there- **False** (A rubber duck will float back to the surface because it is less dense than water.)
10. All metals sink in water- **False** (Some metals, like aluminum, can float depending on their shape and density.)
11. A ball of playdough will float in water- **False** (A solid ball of playdough will sink, but if shaped like a boat, it can float.)

| Carnivore | Herbivore | Omnivore |
|---|---|---|
| A **carnivore** is an animal that eats **other animals**. Here are some examples: wolf, snake, crocodile, lion, tiger, penguin | A **herbivore** is an animal that eats **plants**. Here are some examples: cow, sheep, rabbit, horse, deer, gorilla | An **omnivore** is an animal that eats <u>both</u> **plants** and **other animals**. Here are some examples: pig, hedgehog, fox, bear, sloth, mouse |

## Birds

Birds are warm-blooded.
Birds have a beak.
Birds have wings.
Birds have feathers.
Birds have two legs.

## Reptiles

Reptiles are cold-blooded.
Reptiles have scales not fur.
Reptiles have ear holes, not ears.
Reptiles have dry skin.

## Mammals

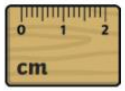
Mammals are warm-blooded.
Mammals' young drink their mother's milk.
Humans are mammals.
Mammals have hair or fur.
Mammals give birth to live young.

| | | Mammal | Bird | Reptile | Amphibian | Fish |
|---|---|---|---|---|---|---|
| 1 | It has scales and fins. | | | | | ✓ |
| 2 | It lays eggs. | | ✓ | ✓ *usually | ✓ | ✓ |
| 3 | It gives birth to live young. | ✓ | | ✓ *rarely | | |
| 4 | It can live on land and under water. | | | | ✓ | |
| 5 | It has webbed feet and wet skin. | | | | ✓ | |
| 6 | It has feathers and wings. | | ✓ | | | |
| 7 | It has fur. | ✓ | | | | |
| 8 | It has scales and dry skin. | | | ✓ | | |
| 9 | It is warm blooded. | ✓ | ✓ | | | |
| 10 | It is cold blooded. | | | ✓ | ✓ | ✓ |
| 11 | The mother provides the babies with milk. | ✓ | | | | |

# Woodlice

Woodlice are small minibeasts. They are very common and easily spotted on a minibeast hunt.

## What Do Woodlice Look Like?




- Woodlice measure only around 1cm or 2cm in length.
- They are usually brown or grey.
- They have 14 legs and a hard outer shell.

## Where Do Woodlice Live?

- Woodlice live in microhabitats that are dark and damp.
- They can usually be found sheltered under logs, plant pots or rocks.

## What Do Woodlice Eat?

- Woodlice feed on dead and decaying natural materials, such as rotting wood and fallen leaves.
- They pass the nutrients back into the ground, which helps to make the soil healthy.

## Did You Know?

Woodlice are nocturnal animals. At night, when it is dark and cool, they sometimes venture out if they need to look for food.

## The Earth's Surface

What can you see when you look at this photo of Earth?

Earth is covered mostly by water. Huge oceans and seas cover much of the planet, as well as rivers and lakes on land.

The surface of Earth has changed a lot over time.

## The Earth's Surface

Land on the Earth varies from sandy, hot, dry deserts to lush, green rainforests to freezing lands of snow and ice.

The Earth is home to towering mountains.

What else can you think of that you can find on Earth?

As the human population grows, towns and cities that have been constructed by humans are also covering more of the planet.

## Granite

Granite in its natural form.

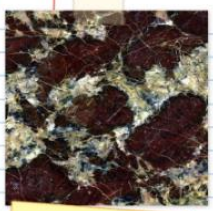
Granite is an igneous rock which is very common all over the world.

It is commonly used in architecture because it is a very hard and durable rock.

Granite and other igneous rocks are formed by magma.

**Did You Know?**
The word granite comes from the Latin 'granum' which means grain. This refers to the coarse-grained structure of the rock.

## Marble



Marble is a metamorphic rock, made from highly compressed limestone.

Marble in its natural form.

**Did You Know?**
Today you may find marble in flooring, clocks, tables and statues.

The ancient Greeks and Romans used marble in their buildings and artwork.

In architecture, marble is usually polished and smooth.

## Chalk

**Did You Know?**
Toothpaste contains a small amount of chalk!

Chalk is a soft, white, porous sedimentary rock which is made from a form of limestone.

Chalk is most commonly white-coloured but not always.

It is most often used for writing and drawing with but it is also used by snooker players and to mark the boundaries of tennis courts.

## Sand

Sand is a naturally occurring granular material made up of fine rock and mineral particles.

Sand can be found in desert regions.

It can also form beaches where the land meets the sea.

Some people use wet sand to make beautiful sculptures.

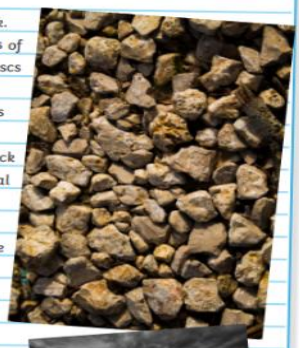
Sand is sometimes used in agriculture because sandy soils are ideal for crops such as peaches, watermelons and peanuts.

**Did You Know?**
Concrete is made by mixing sand together with cement, gravel and water..

# Limestone

**Limestone**

Limestone is a sedimentary rock.
It has many different fragments of marine habitat e.g. coral, molluscs and forams.
About 10% of sedimentary rocks are limestone.
Organisms that bury into the rock causing decay often erode coastal limestone.
Limestone is very common in architecture, especially in Europe and North America.
Limestone is crushed and the main source of rock used when creating roads. It is used as a solid base when building a road.



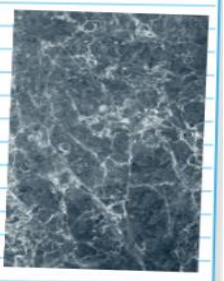
**Did you know?**

Some of limestone's uses are; a building material, component of concrete and can be found in toothpaste and paint.

# Slate

**Slate**

Slate is a fine-grained metamorphic rock.
This sedimentary rock is made up of clay and or volcanic ash through metamorphism.
The word 'slate' is used for certain types of object made from slate rock. Like a writing slate or the roof tile made of slate.
Slate is well suited to become a roofing material as it has a low water absorption index making slate waterproof.
Due to slate having thermal stability, slate has been used in laboratories as bench tops.



**Did you know?**

Because slate is a smooth piece of rock the phrases 'clean slate and 'blank slate' come from this characteristic.

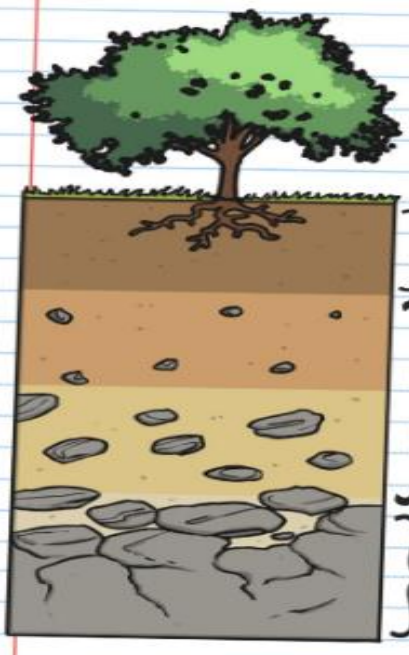
# Soils

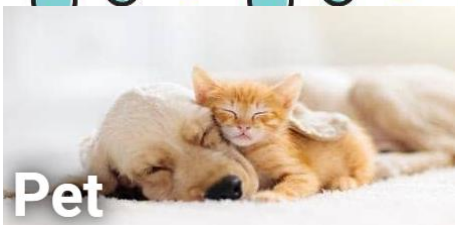
Soils are a mixture of tiny rock particles, dead plants and animals, air and water.

## How is Soil Formed?

Soil is formed in layers.

Soil layers take many years to form.






- **To take care of a pet, you need to**:
- Feed your pet a quality diet and prevent obesity
- Provide a protected, clean, and comfortable living environment for your pet
- Provide ample opportunities to exercise and play with your pet
- Train your pet to follow simple commands and socialize with other animals
- Dental care, grooming, and nail trimming are very important for your pet's health
- and hygiene
- Communicate with your pet and develop a relationship
- Visit the vet regularly and provide the needed vaccination on time

**Final Reminders:**

**1. Please note it will always include real life applications, analysation and understanding of questions and pictures.**

**2. Use the pictures and words as your guide to answer the questions.**

**3. Be confident. You can do it! You can make it!**


KEEP
CALM
AND
And love science